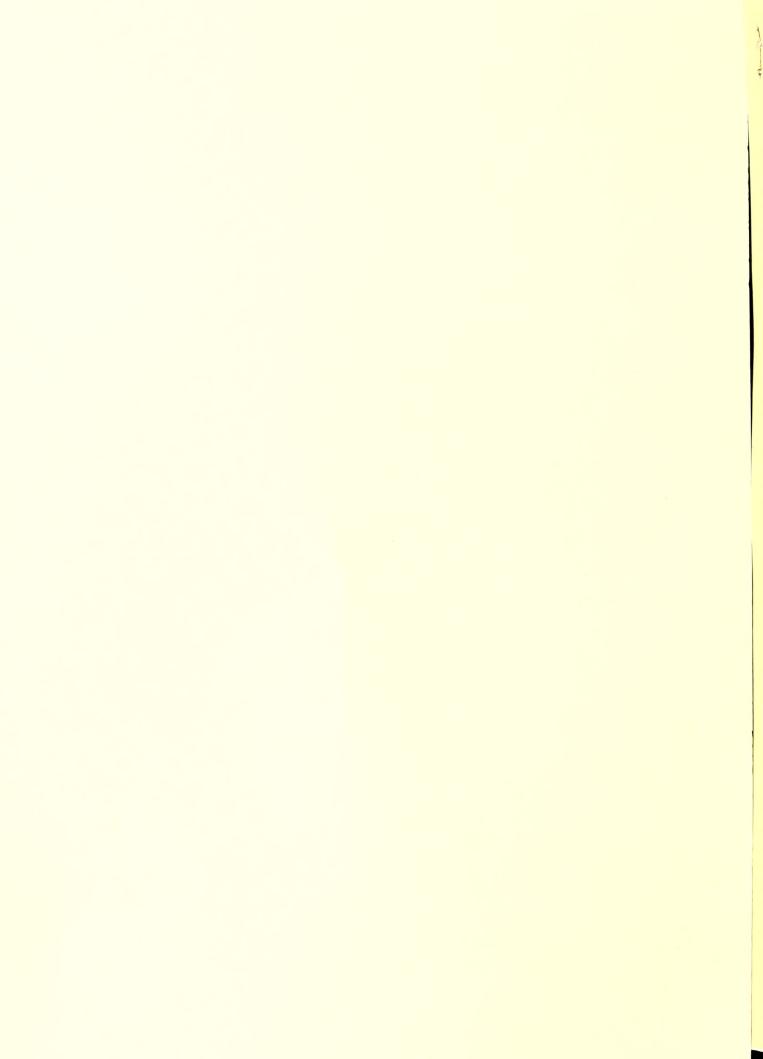
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Speech Booklet 5

Thursday, February 24

For release 7:00 a.m., February 24

10:30 PANEL ON THE FUTURE OF BIO-ENGINEERED FARM PRODUCTS

Biotechnology and International Trade Issues

Carole L. Brookins, Chairman and Chief Executive Officer, World Perspectives, Inc.

2:15 LONG-TERM COMMODITY PROSPECTS

Comments on the Long-term Projections for U.S. Agriculture

Gary M. Adams, Program Director, Food and Agricultural Policy Research Institute, University of Missouri

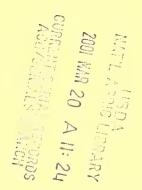
2:15 RURAL AMERICA IN THE NEW MILLENNIUM

The Rural South: Still a Shadow in the Sunbelt?

Bo Beaulieu, Director, Southern Rural Development Center, Mississippi State University

The Future of Agriculture on the Great Plains

William S. Patrie, Rural Development Director, North Dakota Association of Rural Electric Cooperatives





USDA OUTLOOK FORUM 2000 February 24, 2000 Panel on the Future of Bio-Engineered Farm Products

Remarks By
Carole L. Brookins
Chairman and CEO
World Perspectives, Inc.

BIOTECHNOLOGY AND INTERNATIONAL TRADE ISSUES

Biotechnology: Information and Communication

In discussing the challenges facing biotechnology in agricultural trade, I want to begin with the subject of the information technology revolution. You might think that this is a strange point of departure, but it has EVERYTHING to do with the ability to use biotechnology processes in agricultural and food production and to market those products in national and international markets.

Let's begin with the definition of "information".

According to the Webster's Dictionary, "Information" is "...the communication or reception of knowledge or intelligence." When we talk about today's information technology revolution, we are referring to the computer age that has made globalization a reality and that has accelerated in a quantum leap the accessibility of the same information virtually instantly anywhere in the world.

This information revolution has created a true "global village". The information media creates both consumer markets and consumer perceptions. The technology for "transmitting" that information has been changed dramatically from earlier periods when we sent communication across the world in sailing ships or carried letters and news between towns or across continents on horseback. In recent years, during my own lifetime, we've advanced our communication technology from the telegram to telex/teletype to fax machines, and now to email...and I'm not that old! The media has changed from "newsreels" that we saw in motion picture houses and radio broadcasts to television satellite transmissions, and now to global, instantaneous, inter-active connectivity using broadband digital signals. We can now buy food off the "web," electronically we can connect agricultural buyers and sellers, and we can get information about our food products from television and internet sites.

Information comes to the global village through a process that we know to be "communication." "Communication" means simply "...the technology of the transmission of information."

Now, here's where biotechnology and agriculture come together in this information technology revolution. Because the same technology revolution that has transformed communication in modern information technology has transformed genetic "communication" in biotechnology. For a biochemist, a gene is simply the "information" that a cell needs to synthesize a protein. With

computer technology, the scientist is better able to understand the gene's information and to simulate what precise changes mean.

Agricultural biotechnology is no more nor less than the same technology that is used to develop life-saving and disease-fighting pharmaceuticals, to manufacture a laundry detergent that effectively dissolves grease, or to produce the liquid crystals in a computer display unit. Other specific examples include: insulin, tissue plasminogen, rennet for cheese, silk, leather, methane, biodegradable plastics, industrial solvents and lubricants.

Yet, there is no sharper contrast today in terms of public information than the widespread international acceptance of biotechnology's benefits in pharmaceuticals and industrial products, and the widespread international fears of biotechnology's dangers in agriculture and food production.

The demonization of ag biotech as "frankenstein foods" of ag biotech production as a potential environmental "apocalypse" has permeated the media. Opponents of biotechnology in the agrofood chain have effectively used the communication tools of the information technology revolution to shape opinions. In fact, they have built their assault around the term "GMO" as a virtual poison label, demanding GMO labeling (GMO meaning "genetically-modified organism") and leading a call for products guaranteed as "non-GMOs" or "GMO-free".

In truth, there are NO living organisms on planet Earth that are "non-GMO's". All plants and animals are genetically-modified organisms--including homo-sapiens--either through random or selective breeding.

But, the terms of "GMO" and "Non-GMO" continue to shape the marketplace and consumer perceptions. The results of this communication campaign has been to legally block, or de facto restrain the introduction of biotechnology into the agricultural and food product markets. And, most importantly, to isolate biotechnology in agriculture from all the many other accepted applications currently in use throughout industry and society.

Agricultural Biotechnology: Trade Costs, Trade Impacts

The battle launched against agricultural biotechnology is challenging and blocking the growth of international trade in two ways:

- 1. Raising commercial impediments and costs; and
- 2. Constructing a myriad of legal and regulatory hurdles to commerce.

I. Commercial Impediments and Costs

The myriad of "labeling" laws and consumer-driven labeling demands related to agricultural commodities and derived food products has created both higher risks and higher costs to producers, processors and retail merchandisers.

On one hand, U.S. regulators have to date held to a policy on "labeling" that was set by the Food and Drug Administration (FDA). FDA policy is that biotech products must be labeled if they contain transferred allergens or altered nutritional values. FDA has not yet developed other labeling guidelines. U.S. industry supports voluntary labeling, as long as it is "truthful" and is not misleading to consumers.

On the other, Japan and the EU are approaching "labeling" based on consumer choice and the consumer's right to know.

It all sounds pretty simple, but the current "labeling" regimes based on "consumer's choice" is creating tremendous barriers to introducing new biotechnology seeds and marketing biotechnology agricultural and food products. In fact, a recent report noted that biotechnology companies are bringing fewer new crops to the U.S. government's approval process (only six new submissions in 1999 and four of them were withdrawn) – the fewest since 1993.

First, there is the farm price return. Who will bear it? Are consumers willing to pay a premium for "non" BT corn or Round-Up Ready Soybeans? Or are farmers going to get lower prices, through a discount paid to them for biotechnology-enhanced crops? In today's market, BOTH situations are occurring. For example, U.S. grain traders said that the premium for non-biotech U.S. grain since harvest rose to a high of around 10 cents/bushel in late Fall/early Winter and has since worked back down to 5-8 cents/bushel.

Second, there is the cost of logistics. Segregating "GMO" and "Non-GMO" commodities creates tremendous new challenges and cost burdens in the movement of commodities from the farmer to the processor and end-user. Moreover, certification of bulk commodities in the existing marketing system is extremely difficult and costly when considering that the risk of contamination must be outweighed by the premium to be earned. While Japanese food processors estimate that costs for non-biotech commodities are rising substantially, European contacts say that no one except the Nordic countries are willing to pay a premium. One exporter said that the combination of paperwork burden and segregation costs on a shipment of non-biotech soybean meal he sold to Italy cost more than the \$25/ton premium he received. In fact, he said he had "a room full of paperwork for one single 10,000 ton shipment!"

Third, there is the risk of compliance and viable certification that can lead to costly litigation. Existing testing procedures for biotechnology are imperfect at best, take time to perform and add costs to the marketing chain. There needs to be agreement between buyers and sellers about what type of test should be used. There are other tests but at least three main ones are notable:

- 1. Near-InfraRed (NIR)
- 2. Polymerase Chain Reaction (PCR)
- 3. Genetic Protein testing

More importantly, a reasonable tolerance must be established, with reasonable being something greater than the one- percent level announced by the EU.

And, fourth, there is both confusion and legal risk in labeling. A <u>Wall Street Journal</u> article (October 26, 1999) pointed out the confusing decisions being made on labeling bioengineered food.

According to the reporter in Britain who investigated supermarket practices since a labeling law went into effect in March 1999, "...the new law hasn't exactly made things easier for discerning shoppers. Rather, it has spawned a bewildering array of marketing claims, counterclaims and outright contradictions that only a food scientist possibly could unravel."

Specific controversies were sited dealing with cheese enzymes, soya protein, food additives and veterinary medicines.

Product liability and the cost of potential litigation are and will create additional barriers to trade.

Trade already has been directly interrupted. The delay in approving new corn varieties under the European Union (EU) Novel Foods Directive has prevented the annual shipment of \$200 million worth of corn. Overall U.S. corn sales to Europe are down more than 97 percent compared to the same time last year. Efforts by Japanese beer brewers and soy sauce makers to go biotech free will also likely affect U.S. sales. Meanwhile, consumers in Europe express concerns about biotech but U.S. biotech soybean varieties have already been approved for entry into the EU and trade has been down but not out.

II. Constructing Legal and Regulatory Barriers to Trade

The world is awash with international interventions designed to regulate trade in biotechnology products. In fact, there are so many different venues for setting standards that we are likely to create an Ag Biotech "Tower of Babbel"

OECD: Working Group studying the food safety implications of biotechnology (per G-8).

Codex: Safety, nutrition and labeling aspects.

Transatlantic Economic Partnership Analysis of U.S. & EU environmental regs.

Biosafety Protocol: Control of biotech trade and includes Clearinghouse WTO: (SPS and TBT implied coverage) Undetermined future action.

Most recently, officials meeting in Montreal agreed to a Biosafety Protocol that provides a framework for addressing environmental impacts of bioengineered products (referred to as living modified organisms or "LMOs") that cross international borders. The stated goal is protection of the environment without unnecessarily disrupting world food trade. Most importantly, that agreement includes a provision for the "precautionary principle" and for "socio economic" considerations to be taken into account in determining whether trade in such products should be limited.

While the biotech industry and many U.S. agricultural groups believe that this will not create a serious impediment to the continued advancement of agricultural biotechnology production and trade, I am not so sanguine about the limited potential for disrupting the "sound science" foundation of the WTO SPS Agreement.

Those supporting the protocol argue that the legal terms of the protocol will act as a "firewall" against more radical controls and prohibitions on the trade in all ag biotech products, and that the Biosafety Protocol will have no legal impact on the WTO obligations and rules.

The opposite view, which I support, is that the protocol could become an important legal precedent in trade disputes—a Pandora's Box that has now been opened to a whole wave of new regulatory restrictions and loopholes to the "sound science" basis for the WTO and the CODEX.

Integrating Ag Biotech into International Markets

Where do we go from here? I'd like to propose some initiatives to facilitate a balanced approach to better integrate biotechnology into global markets.

First, let's work together to agree on the testing processes used in certification of biotech products.

While we have a long way to go in harmonizing biotechnology approval processes and regulatory standard setting, we can at least reduce potential risks in trade by cooperating in developing the necessary technologies to efficiently and accurately test products derived from biotechnology. Then we should reach agreement on the use of those tests as the means to resolve disputes.

Testing procedures will be necessary to "label," segregate and maintain the integrity of identify-preserved output trait biotechnology crops in the future, as well.

Second, greater cooperation should be offered in setting standards and regulatory regimes that can be carried out regionally--apart from the international bodies where the clash between the U.S. and EU approach has created such a striking division.

For example, many APEC countries support ag biotechnology, including the U.S., Japan, China, Singapore, Malaysia, Canada, Indonesia and Australia. Similarly, leading countries in the Americas--FTAA--are proponents of ag biotechnology. If you take APEC Member Economies and the FTAA countries, you have more than 60 percent of the world's population--versus less than 400 million people contained in the EU (barely more than 5% of the world's consumers). We should be concentrating more of our efforts to build consensus on appropriate standards with those trading partners, even as we continue to fight for access and against unfair trade barriers with the EU. By focusing most of our efforts on Europe, we have lost time and credibility by letting "Eurofear" dominate the marketplace.

Third, we should work together through the World Bank and FAO to create a technology mentoring program to bring the technology and the training to developing economies.

Developing countries and lesser developed countries need assistance in understanding and properly utilizing this new technology for feeding their hungry people. A fund could be set up to finance testing equipment and appropriate technical training.

Fourth, we should use food aid monetization in country to improve the knowledge applications of agricultural technologies.

We can take the same basic models that helped developing countries adopt the practices of the Green Revolution -- such as monetization of food aid to defray costs and utilization of an extension system - to help countries adopt and properly utilize biotechnology and to bring their own products to market.

Fifth, we should be taking on the "GMO", "Non-GMO" label issue.

Biotechnology IS biotechnology--whether the products are agricultural commodities, food products, pharmaceuticals, forest products or industrial enzymes. If a label is a prerequisite because a product was derived using biotechnology, then we must end this "agriculture apartheid" and come up with a "biotechnology" process label that is universally applied to ALL products that have been produced using biotechnology process.

That would be the only way to achieve accurate and truthful labeling.

Sixth, it is crucial to establish the benefit of ag biotechnology to mainstream consumers.

We need to refocus our energies in developing biotechnology solutions to solve problems related to environmental degradation, resource constraints (e.g. soils, water, weather, energy) and to improve health and reduce human nutrition deficits.

And last, we need to understand that the biotech controversy is only one aspect of a larger public confidence problem.

The global information system has focused many aberrations in what are normally very secure food safety regimes. All of the scares on food safety issues have been magnified and heightened consumer anxiety about the adverse impact on their health from the foods they eat.

It is ironic to me that consumers rise up against biogenetically-produced, naturally-recurring hormones injected into cows that increase milk yields...but they eagerly inject themselves with "age-retarding," wrinkle-reducing hormones.

I like to say that our job in the agri-food system is no easy task. We must meet consumers' demands for miracle foods that are totally natural, have zero calories, zero fats and cholesterol, delicious taste, total nutrition, low price, environmentally friendly production, "green" packaging... and that guarantee perfect bodies, romance and immortality!

In closing, humor aside, our most pressing agenda is to build international consensus on the benefits of introducing many new technologies into the agri-food system. I want to end with the admonition that to succeed in this mission, we must build a new covenant of trust between agricultural producers and consumers.

COMMENTS ON THE LONG-TERM PROJECTIONS FOR U.S. AGRICULTURE

Gary M. Adams
Program Director, Food & Agricultural Policy Research Institute (FAPRI)
University of Missouri

The Food and Agricultural Policy Research Institute (FAPRI), located at the University of Missouri and Iowa State University, develops long-term projections for world agriculture. The 10-year baseline results from a process that lasts several months. Initially, analysts from universities involved in the FAPRI consortium meet to determine the key assumptions that underlie the baseline. Based on these assumptions, preliminary projections are developed and then subjected to outside review. The last step is to incorporate comments from the reviewers, as well as any other changes into the final baseline projections. FAPRI has just recently completed its global baseline for 2000, and these projections will serve as the "yardstick" against which alternative scenarios are analyzed.

This paper will cover three areas. First, a brief overview of the FAPRI baseline for U.S. agriculture will be given. Second, several key indicators from the FAPRI and USDA baselines will be compared and contrasted. Finally, as with any projections, there are always critical uncertainties surrounding the numbers. The paper concludes by examining some of these uncertainties.

Summary of the FAPRI Baseline for U.S. Agriculture

Baseline projections are not forecasts of the most likely outcome, but rather just one plausible scenario highly dependent on the underlying assumptions. FAPRI relies on the WEFA Group, a private forecasting firm, for the macroeconomic variables included in the projections. In general, the macroeconomic projections suggest a reasonably optimistic outlook. By 2001, real GDP growth in developing economies recovers to an annual rate of 5 percent, similar to levels observed in the early 1990's. Developed economies maintain growth between 2 and 3 percent. In the U.S., overall price inflation, as measured by the CPI, is projected at a modest level of 2.5 percent.

As is customary in a FAPRI baseline, current agricultural policies are assumed to hold for the life of the baseline. By assuming constant policies, the baseline provides the "yardstick" against which alternative policies are measured. For the U.S., the FAIR Act is continued with provisions for 2002 extended indefinitely. FAPRI does not assume any new legislation or changes to current legislation beyond what has already been agreed upon. The current baseline does not assume expansion of the European Union or a new WTO agreement, nor does it incorporate China's accession into the WTO.

Assumptions must also be made regarding rates of technological change, both for crop yields and livestock productivity. For the baseline, technological change is generally assumed to continue at rates consistent with recent history, unless there are overriding reasons to assume otherwise. Longer term, these assumptions become critical. For example, yield assumptions have a direct impact on the number of acres that are required for crop production. Likewise, gains in feed efficiency impact the amount of grain necessary to produce a pound of meat.

For the U.S. crops sector, the short-term projections suggest continued pressure on prices, with the long-range outlook characterized by guarded optimism. Since 1996, the crops sector has generally seen favorable yields and higher acreage levels at the same time that demand has been rather sluggish. The result has been that production has exceeded disappearance and stock levels have recovered. Subsequently, prices have fallen, and in some cases, reaching the lowest levels since the mid-1980s. Looking forward, under the assumption of trend yields, prices for wheat and feed grains are expected to show modest recovery in 2000, but still remain below historical averages. Domestic and export demand are both expected to continue to strengthen. For soybeans and cotton, little if any price recovery is expected for 2000. Despite low prices in 1999, acreage devoted to these two crops is expected to increase in 2000. For soybeans, the loan rate is partially responsible for the increased acreage.

Looking toward the end of the baseline, crop prices are projected to recover to levels in line with historical averages. For example, corn prices reach \$2.50 per bushel, and wheat prices top \$3.50 by 2008. Income growth fuels the demand for food on a global basis, allowing U.S. exports to expand. In addition, domestic demand expands as the U.S. livestock sector increases production levels. With demand growth outpacing supply, stock levels of the major grains and oilseeds decline from their recent highs.

The outlook for U.S. livestock shows more favorable times than what has been observed in recent years, particularly with regards to the output price. The beef cycle is in a liquidation phase of the herd, continuing to tighten the supply of feeder calves. The result is projected strengthening in prices through 2003, with feeder steer prices averaging above \$90 per hundredweight. For beef, the long-term outlook depends on relatively stable domestic demand and continued growth in exports.

The U.S. pork sector has just completed two of the worst years, in terms of profitability. The result has been to downsize the breeding herd, leading to projected declines in production for the 2000-02 period. While still below the levels observed in the mid-1990s, pork prices are expected to recover and average above \$40 per hundredweight for much of the projection period. Despite a relatively stable breeding inventory, production approaches 21 billion pounds by 2009 based on gains in productivity.

The projections for broilers and dairy are both characterized by a continuation of recent trends. Broiler production is expected to grow at an annual rate of 3 percent, with the additional production finding a home in both the domestic and export markets. Milk production is also projected to continue its growth, as the increase in productivity more than offsets a declining herd size.

When looking at the sector as a whole, U.S. net farm income in 1998 and 1999 has held up reasonably well despite the low prices. To a large extent, this is due to the increased government payments resulting from the assistance packages. Assuming no additional assistance packages and the declining payments under the FAIR Act, significant pressure on farm income is projected for 2000. In fact, little recovery in aggregate farm income is expected before 2007 as rising output prices are generally offset by increased production expenses.

Comparison of FAPRI and USDA's Long-Term Projections

Before examining the outcomes of the two sets of projections, it is important to first look at the key assumptions. In general, it appears that there are more similarities than differences between the underlying assumptions. Macroeconomic projections in both baselines assume recovery in the Asian economies will continue and income growth in developing economies approach historical levels. The FAPRI baseline does assume slightly stronger growth in the developing economies than USDA. For

2004-2009, FAPRI has annual growth of about 5.5 percent with USDA assuming a slightly lower rate of 5 percent. Policy assumptions are also very similar with both baselines assuming a continuation of current policies. The only differences are areas where the Secretary has discretion to set the exact levels. For example, FAPRI assumes loan rates will be held constant for both 2000 and 2001 and then adjust for the 2000 crop based on the formulas of the FAIR Act. USDA allows the adjustment beginning with the 2001 crop. Perhaps, the most noticeable difference that could impact the resulting price and quantity projections is the Export Enhancement Program (EEP). USDA assumes that EEP expenditures resume in FY 2001 while FAPRI assumes no EEP expenditures throughout the baseline. Regarding technology, crop yield assumptions are also quite similar with only modest differences occurring by 2009.

Turning attention to the projections themselves, do similar assumptions and input data generate similar output data? The answer is a definitive maybe (or maybe not). Baseline projections are the result of combining mathematical models with the judgment of analysts. There are a number of areas where differences and divergence of opinions can arise. The challenge becomes identifying those differences and the reasons for them. Table 1 gives a comparison of some the major indicators from the U.S. baselines generated by FAPRI and USDA. While there are many similarities in the numbers, there are also a few key differences worth exploring.

Looking at price projections for the major crops, FAPRI is noticeably stronger in the near-term with USDA being much more bullish on the long-term price outlook. By 2007-09, USDA corn prices exceed those of FAPRI by about 20%. The short-range differences appear to be associated with export markets. FAPRI has a stronger export demand for U.S. crops in the early years. By the end of the projections, the situation appears to be reversed with USDA's crop exports exceeding those of FAPRI even at a substantially higher price.

On the supply side, there appear to be substantial differences regarding the responsiveness of U.S. acreage as well as constraints on U.S. acres. In the early years, USDA has fewer acres in production of the 8 major crops than FAPRI, even though overall returns are comparable. By the end, acreage levels in USDA's projections are roughly the same as in the FAPRI baseline, but at much higher prices and returns.

With nearly identical supply and demand quantities, yet much higher prices, it appears that USDA's basic supply curve for the crops sector lies to the left of the one assumed by FAPRI. The resulting prices in the USDA baseline increase to levels that are substantially above the per-unit variable costs, suggesting incentives for additional acres both in the U.S. and globally.

When comparing the projections for the U.S. livestock sector, the long-term price differences also become evident. USDA prices exceed FAPRI prices for beef, broilers, and milk. Pork is the one exception. Higher livestock prices are to be expected given the higher feed costs between the two projections. However, it appears that for beef and dairy, output prices are strong enough to support returns and offer incentives to increase production. In the middle of the projection period, FAPRI's beef cow numbers exceed those of USDA's by about 10 percent. As is the case in the crops sector, more pessimism regarding supply potential is evident in the USDA projections.

One final point on the livestock projections regards the price outlook across the various enterprises. By the end of the baseline, beef, broiler, and milk prices recover to levels higher than what was observed in the 1980's ad 1990's. However, pork prices remain below historical levels throughout the projection period. Is the new price level reflecting a new cost structure that resulted from the structural changes of

the 1990's? Or is it an indication that the Iowa-Southern Minnesota price may not be accurately reflecting the true output price?

Regarding the sector as a whole, net farm income projections mirror the differences in the price projections. USDA shows substantial weakness in the early years, before recovering longer term. FAPRI's income projections are generally more stable throughout the period.

Concerns and Uncertainties

As with any projections, there are always a number of concerns and uncertainties around the projections. In fact, the only certainty is that just about everything is uncertain. The FAPRI projections are no different. As mentioned earlier, a baseline is just one plausible scenario dependent on the underlying assumptions. Changing any of those assumptions regarding the economy, policy, or technology will alter the results. In addition to these unknowns, projections regarding the agricultural sector must be concerned with a host of other issues.

What impacts will recent and future developments in GMO's have on the sector? Are there long-run impacts on the supply and demand for crops? As the production of crops with specialized traits continues to grow, it may no longer be relevant to just look at a corn supply and use table, but instead projections for different types of corn. The degree that this becomes necessary in the next 10 years may ultimately depend on the consumer.

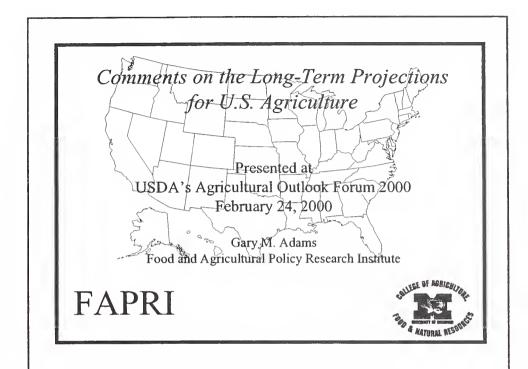
A long-run view of agriculture must also come to grips with the implications of structural change and consolidation. To what extent will these changes impact some of the basic relationships that have held in the past?

Finally, with so much uncertainty and risk surrounding the long-term projections, it is important to provide some indication as to the variability around the deterministic baseline. This is critical in the current environment where so much of the focus is on managing risk. In addition, the pros and cons of many policy options under consideration become evident only in situations where supply, demand and prices are not at average levels but rather near the extremes.

Table 1. Comparison of FAPRI and USDA Baseline Projections

	2000-02 Average		?	2007-09 Average		
	FAPRI	USDA	Diff.	FAPRI	USDA	Diff.
Planted Area			(Million	Acres)		
Wheat	63.5	61.7	-1.8	66.4	67.8	1.4
Com	78.4	76.5	-1.9	80.6	79.8	-0.8
Soybeans	72.9	73.9	1.0	73.0	71.5	-1.4
Upland Cotton	14.4	13.7	-0.7	13.7	13.4	-0.3
Rice	3.5	3.3	-0.1	3.3	3.2	-0.1
8-Crop	249.6	246.1	-3.5	253.1	253.4	0.3
Crop Exports	(Million Units)					
Wheat, bu	1,150	1,158	8	1,239	1,475	236
Corn, bu	2,083	1,967	-116	2,562	2,408	-154
Soybeans, bu	1,017	1,023	6	1,053	1,012	-41
Up Cotton, bales	7.96	7.07	-0.89	7.59	7.70	0.11
Rice, cwt	94.2	87.2	-7.1	81.6	73.3	-8.3
Crop Prices	(Dollars per Unit)					
Wheat	3.00	2.60	-0.40	3.54	4.18	0.65
Corn	2.13	2.00	-0.13	2.42	2.90	0.48
Soybeans	4.55	4.25	-0.30	5.61	6.43	0.82
Upland Cotton	0.48	NA	NA	0.61	NA	NA
Rice	6.92	5.72	-1.20	8.26	8.20	-0.06
Livestock Prod.			(Billion P	ounds)		
Beef	25.1	24.2	-0.9	27.5	24.3	-3.1
Pork	18.5	18.7	0.2	20.4	20.5	0.1
Broilers	31.8	32.1	0.3	38.5	37.6	-0.9
Milk	168.0	168.6	0.6	184.0	182.7	-1.3
Livestock Prices			(Dollars p	er Cwt)		
Beef	73.11	69.43	-3.69	68.03	80.87	12.84
Pork	41.37	37.71	-3.66	42.89	39.86	-3.03
Broilers	57.17	56.33	-0.84	55.82	64.10	8.28
Milk	12.68	13.42	0.74	13.05	15.80	2.75
	(Billion Dollars)					
Net Farm Income	40.21	36.97	-3.25	43.11	54.63	11.52

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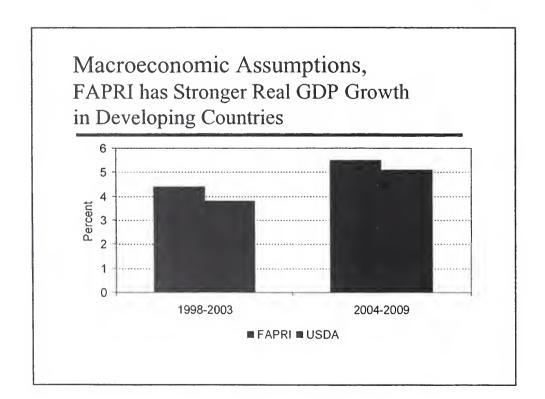


What I'll Cover

- Comparison of major results from the FAPRI and USDA projections
- Key uncertainties around the projections

Comparing Baseline Projections

- Baseline projections are not forecasts of the most likely outcome, yet one plausible scenario dependent on the underlying assumptions.
- Before examining the outcomes, it is important to first look at the key assumptions.
 - Macroeconomic
 - Policy
 - Technology

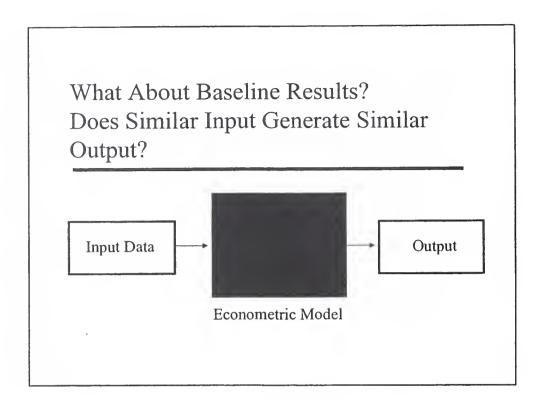


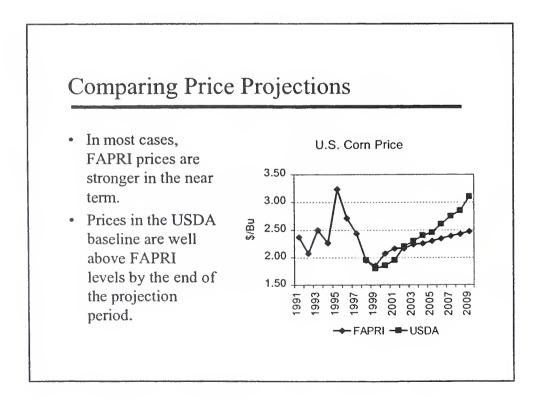
Policy Assumptions, (Similar but there are some differences)

- Same (or close to it)
 - FAIR Act (flexibility, loan rates)
 - Step 2 for cotton
 - CRP
 - Int'l Policy (EU, WTO)
 - Dairy
- Different
 - Export Enhancement Program

Technology

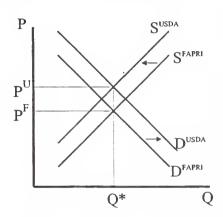
- Similar Crop Yields
 - By 2009, 1.5 bu difference in corn and 0.5 bu difference in soybeans. In wheat, USDA is 2 bu higher.
- Livestock Productivity
 - USDA Stronger milk yields consistent with smaller herd.

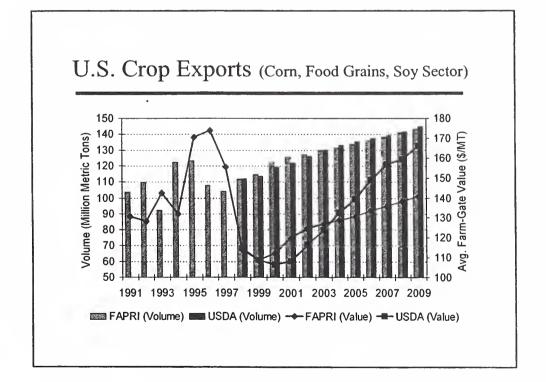




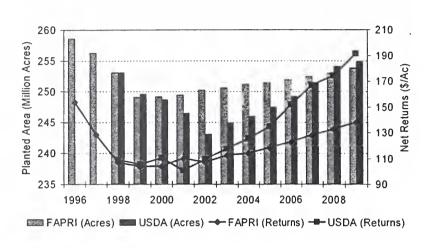
Supply & Demand for the Crops Sector

 Longer term, projections from FAPRI and USDA show similar quantities, but at much different price levels.



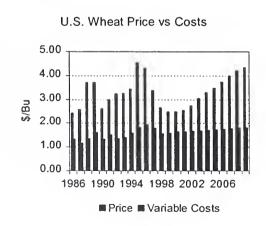






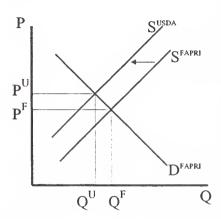
Question about Crop Sector Projections

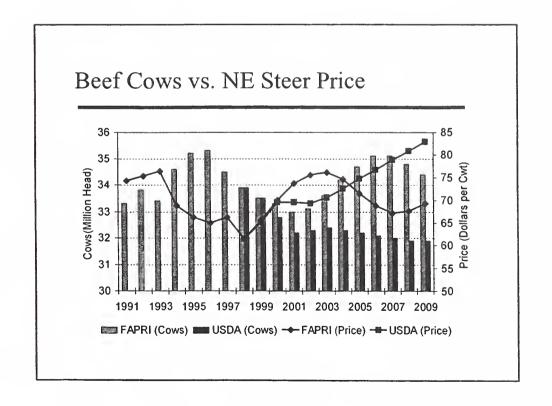
• Given the strong prices longer term, is there enough supply response, either in the U.S. or globally?



Supply & Demand for Beef and Dairy

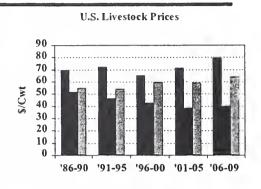
- USDA projections have lower supplies and higher prices
 - Feed costs play a role in the differences.
 - There still appear to be incentives to increase production.





Question about Livestock Sector Projections

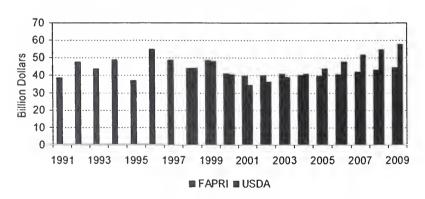
- Relative to historical averages, pork prices are quite a bit lower.
- Other sectors show stronger prices relative to history.



■ NE Steer ■ IA-So. MN 🖾 12-City Market

What About the Sector as a Whole?

U.S. Net Farm Income

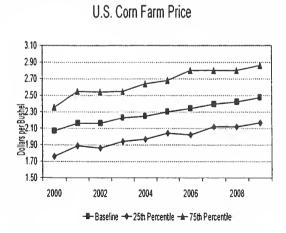


In Conclusion, Certainties & Uncertainties?

- Certainties
 - Just about everything is uncertain.
- Uncertainties
 - Usual concerns about assumptions for macro, policy, and technology
 - In addition, there are others:
 - GMOs (or GEOs)
 - Structural Change
 - · Variability and Risk

Variability Around the Projections

- Many of the current policy questions can't be analyzed against a deterministic baseline.
- We must look at variability around supply, demand and price.



THE RURAL SOUTH: STILL A SHADOW IN THE SUNBELT?

Presented: Thursday, February 24, 2000

Lionel J. Beaulieu Director, Southern Rural Development Center Mississippi State University

The rural South continues to face challenges that have remained persistent parts of the fabric of this region. These include dependence on low-wage jobs, entrenched pockets of poverty, low human capital endowments, and an agricultural/rural economy that finds itself, as a result of global and technological forces, in transition. At the same time, several trends point to optimism among the region's rural areas. Increasingly, jobs paying decent wages are coming to some parts of the rural South. Moreover, several communities are implementing creative strategies to further strengthen the economic health of existing agricultural and non-agricultural firms in their localities. Young people are graduating from high school in increasing numbers, touching all racial and ethnic populations. And, people are re-discovering the amenities that rural life brings, as witnessed by the increasing number of people migrating to the rural South.

Indeed, the rural South finds itself at a critical junction in the year 2000. In this brief paper, I attempt to outline a subset of forces currently impacting the Southern region. In addition, I seek to outline key policy considerations that might position the rural South to become a full partner in the progress being realized in many parts of America today and in the years ahead.

The South's Rural Population: Not Only Growing, But Diversifying

It is not unusual when popular presses speak of the "new South," that their orientation tends to devoted to major transformations that are taking place in the landscape of urban areas, such as Atlanta, Nashville, Charlotte, San Antonio, or Tampa. While it is true that a sizable number of Southerners are living in major urban and suburban areas of the region, it is important to remember that the number of individuals who reside in the rural South is not inconsequential. As of March 1998, nearly 25 percent of the region's population were classified as nonmetro residents, numbering some 23.2 million persons. The South continues to be the region of the U.S. with the largest number of people living in rural areas.

In essence, the rural South represents a significant component of the region's population. And, if recent figures are any indication, the rural South is experiencing a healthy expansion of its population. For example,

• Between 1990-96, the nonmetro South realized an increase of 733,000 residents through migration exchange with the urban South and with other regions of the country. In addition, it gained more than 97,000 international immigrants (Nord and Cromartie, 1999b).

• And, recent data point to a continuation in this trend. Between March 1997 and March 1998, nonmetro areas of the South grew by 227,000 people. Most of these gains were the result of net exchange with the urban South (Nord and Cromartie, 1999b), a unique feature in the history of the rural South.

Coupled with the growth in population is the increasing diversification of the region's rural population. To those having some familiarity with the rural South, it should come as no surprise that nearly 9 of every 10 nonmetro-based African American are living in the rural South. What may be more startling however, is how the diversity of the rural South has accelerated in recent years.

- Nearly 52 percent of the population growth experienced during the 1990-98 period in the nonmetro South was due to growth of minority populations (Murdock et al., forthcoming).
- In contrast to the 4.7 percent rate of growth of the white non-Hispanic population in the rural South from 1990-98, the rate of expansion has been far more rapid among blacks (13.2 percent), Hispanics (34.4 percent), and other racial/ethnic minorities (16.7 percent) (Murdock et al., forthcoming).
- The migration pattern of Blacks is changing. The in-migration of Blacks into the rural South is outpacing their out-migration rates. And the lion's share of Blacks moving into the nonmetro South are doing so from urban localities of the South, not from urban centers situated outside of the region (Nord and Cromartie, 1999a), as has been the case in the past.

The Economic Health of the Rural South: An Area in Decline?

The period of the 1990s has been one of significant economic expansion in our nation and the rural South has been a full partner in this economic growth. In fact, over the 1991-96 period, employment growth in the nonmetro areas of the South actually increased at a faster pace than the nation as a whole (10.2 percent vs. 9.7 percent). However, the wages secured for these jobs was on average lower in the nonmetro South than that of the U.S. (Barkley, 1999).

Some key economic figures:

- Manufacturing, the sector which served as the rural South's economic base for much of the 1970s and 1980s, realized little growth during the 1990s (1.1 % increase in employment growth). However, 19 percent of the South's nonmetro labor force is still employed in this sector and thus, manufacturing remains a vital part of the economy of the rural South.
- The South's rural economy is being significantly reshaped vis a vis the trends just two or three decades ago. Approximately 84 percent of the new jobs that created in the rural

South in the 1990s were being generated by service-sector related industries; only 16 percent were accounted for by expansion in the goods-producing industries (Barkley, 1999).

• Despite expansion of the region's rural economy, wages per job in the rural South are only 74 percent of the national average (Rowley and Freshwater, 1999). In many Southern states, nonmetro wages are actually losing ground relative to the nation as a whole (Barkley, 1999).

Why the increasing gap in wages? The answer may not be a simple one. David McGranahan (1999), from the Economic Research Service/USDA, suggests that the rural South's manufacturing sector has historically paid higher wages than those provided in other sectors. Service sector jobs, the most rapidly growing segment of the rural South's economy, generally provide lower wage compensation and less than full-time employment relative to manufacturing jobs. As such, the shift in the economic complexion of the rural South may be a contributing factor to the lower earnings being garnered by members of the South's rural labor force.

But, there is no doubt that the region's legacy of recruiting industry to the rural South that were in search of cheap labor continues to rear its ugly head today. The rate of pay provided by the rural South's manufacturing sector is only 68 percent of the U.S. average, the very same as it was over three decades ago. And nearly 50 percent of all the working poor in the rural U.S. now live in the rural South (Rowley and Freshwater, 1999).

At the same time, it is a well-known fact that earnings are closely tied to education. The higher one's education, the greater earnings one is able to garner. So, a question we can ask ourselves is this: "Is the educational status of rural Southerners a barrier to the economic health of the rural South?" Let's turn to this issue at this point. In particular, we wish to examine the general educational progress being realized by adult rural Southerners.

The Educational Endowments of Rural Southerners: The Good and the Bad

In comparison to past trends, the nonmetro South has made significant gains with regard to the educational status of its adult residents. What we have witnessed is recent years is a shrinking in the gap in high completion rates between metro and nonmetro residents of this region. But, the education gap still does persist.

- As recent as March 1997, the proportion of rural residents 18 years of age or older with a high school education or more stood at 70.8 percent, a figure that was about 10 ½ percentage points lower than that found in the metro South.
- The nonmetro South continues to seriously lag behind the metro South is in terms of its college educated population. Over 22 percent of metro Southerners now hold a bachelor's degree or more; the figure for the nonmetro South stands at 12.1 percent.

• The South continues to outpace the nation with regard to the number of high school graduates not seeking any post-secondary education, and the largest share of these individuals are located in South's rural localities.

At the same time, there are encouraging signs that suggest that the rural South is expanding its base of better-educated persons.

- For the first time in decades, the rural South is attracting a larger proportion of people with college degrees than it is losing. Thus, the rural South is making small gains in terms of the educational credentials of its populace (Nord and Cromartie, 1999).
- In addition, some manufacturing firms, once in search of low cost labor in the rural South, are now relocating in greater numbers to rural localities having a labor force with a high school education or better (McGranahan, 1999). If this trend persists, the flow of better educated persons to the urban/suburban South may continue to erode.

Demand for Better Skilled Workers: Is it Accelerating in the South?

Approximately three years ago, the Hudson Institute released a report which it titled, Workforce 2020 (Judy and D'Amico, 1997). This document, along with its predecessor, Workforce 2000, have helped stimulate an active debate among scholars, policymakers, and business leaders regarding the state of America's workforce. What these two reports have suggested is that the U.S. labor force is poorly positioned for the jobs of the future — jobs that called for better skilled and educated workers having the capacity to effectively compete in a complex global economy (Johnston and Packer, 1987).

In studying the Southern landscape, there appears to be little evidence of an acceleration in the human capital endowments being linked to most new jobs (Barfield and Beaulieu, 1999). For example,

- A sizable number of new jobs slots (over 58 percent) being created over the course of the 1996-2005 will require no formal education beyond high school. Rather, short-term onthe-job training training that can be acquired in less than a month -- are projected to be in greatest demand.
- A majority (52.3 percent) of new jobs will be in occupations that provide less than \$25,000 in wage compensation.
- Many of these jobs will offer only part-time employment, and will be subject to higher rates of unemployment.

On the other hand, a different picture emerges when one shifts from jobs that are expected to realize the largest numerical growth, to those that are expected to grow at the fastest pace.

- Many of the South's fastest growing occupation require associate or bachelor's degrees, or moderate levels of on-the-job training (lasting up to a year).
- These jobs are likely to be stable and offer decent wage compensation.

But, the number of slots being created in the fastest growing occupations will pale in comparison to the number of jobs that created in less-skilled occupations. If past trends are any indication, the rural South will capture many of the jobs paying lower wages, while the best jobs that are accelerating at the fastest pace will likely flow to the region's urban and suburban areas.

The Challenges of Devolution: TANF and WIA as Cases in Point

Increasingly, the federal government is transferring the responsibility of shaping and managing a wide array of programs to state and local jurisdictions. The welfare reform legislation of 1996 (Temporary Assistance to Needy Families -- TANF), as well as the Workforce Investment Act of 1998, represent two important federal legislative activities that demand greater state and local involvement in carrying the these policies. How are these programs currently faring in the South?

- Since 1993, the South has outpaced the rest of the nation in terms of the number of people who have left the welfare rolls. While the U.S. realized a 48 percent decline in welfare caseloads between 1993 and 1999, this figure neared the 60 percent in the South.
- What these figures fail to reveal, however, is the tremendous difficulties that former TANF recipients are facing in the working world. In many Southern states, nearly one-half of the people who have transitioned off of welfare have no documented job.
- Where the problem is especially acute is in the more remote rural localities where the number of TANF recipients facing their time limits far exceeds the number of job slots that are available for these individuals to move into.

In the minds of some people, the Workforce Investment Act of 1998 offers a mechanism for assisting low-income people to secure the education and training needed to succeed in today's workforce. Most Southern states are gearing up for full implementation of this program in July 2000. There are a least four elements of the WIA that prove challenging to rural areas of the South.

- 1. Most local workforce investment areas being created in each Southern state are composed of several counties. At such, it is difficult to be certain that the unique challenges of the more rural counties/parishes will be given any significant attention.
- 2. Each local workforce investment area must physically establish a one-stop center. It is expected that these one-stop centers will be set-up on the more populous counties, making access much more difficult for rural residents.
- 3. The most ambitious aspect of the WIA involves making training services available to

adults and dislocated workers who are greatest need of skills-upgrading. But, these training activities must be linked directly to job opportunities available in the local workforce investment area. A concern is whether many rural areas of the South will have a sufficient number of jobs available that demand the type of training services that WIA can provide.

4. WIA does focus on the workforce preparation needs of youth, but it is restricted to youth who are of low income and have one or more additional risk factors (for example, high school dropout, teen parent, homeless, youth offender). This leaves many rural Southern youth without access to any systematic program to facilitate their school-to-work transition

The Policy Challenges

In light of the features that I have noted in this brief overview, there are some important policy issues that deserve continued attention. They include the following:

Making "rural" a priority concern in federal, regional and state policy activities

While I know this statement sounds like a broken record to many who have been concerned about the plight of rural America, I find that a relative indifference to the needs of rural America, and the rural South persists. I offer two cases in point:

- OMB is currently considering a revision in the nation's metro/nonmetro classification system (Office of Management and Budget, 1999). In order to more effectively capture the distribution of our nation's population and economic activities, OMB is proposing a new typology: megapolitan, macropolitan, and micropolitan. Each area would contain one or more population cores of at least 10,000 persons. Census-defined urban areas and a new geographic entity, census defined settlement clusters -- would constitute these cores. What would happen to the nonmetro or rural designation that we commonly use in our policy discussions? It would be relegated to a new category that OMB has ingeniously labeled "outside CBSAs." Is this really how we want to refer to rural America?
- In its much heralded report on the South titled, *The State of the South*, MDC Inc. of Chapel Hill, NC offered substantial evidence of the progress being realized in the South. Specifically, they noted that "The modern South is a dynamic, growing, changing region, galloping into the 21st century." Indeed, one must admit that on many fronts, the South has made significant strides over the course of the last two decades. But, in very few cases were the successes and challenges of the rural South given much consideration in this report. In the instances in which rural was indeed addressed, the tenor of the comments appeared to be superficial, demonstrating but fleeting interest in the welfare of the rural South. The following are a sampling of comments that made me arrive at such a conclusion:

- ♦ Increasingly, the South's prosperity will depend upon its cities and suburbs working together and remaining healthy.
- A region once distinguished by small towns and farms, the South is now far more urban and especially suburban than rural.
- ♦ [I]n the South's large metropolitan areas, the "new office" economy flourishes.

 The region, like the nation, is replete with managers and professionals,

 supervisors and technicians, making a middle-income-or above standard of living

 with earnings from high-skilled services.

While these comments may be grounded in factual data, they tend to paint an image of a region whose current and future well-being is clearly rooted in what is happening in urban and suburban areas of our region. Such a slant tends to mask the progress being realized, as well as the challenges still confronting, the rural people and communities in the South.

Federal and state investments in human capital must place priority attention on the needs of both rural workers and rural non-college bound youth

The Workforce Investment Act of 1998 has appropriately outlined key audiences to be targeted as part of this legislation, namely adults, dislocated workers, and "at risk youth." But, the danger I envision with the way this legislation will play out in the South is that the significant human capital needs of rural people will not emerge as a subject of high priority. As such, specific designation of rural adults as a priority target group for the WIA effort should be added to this important legislation.

In addition, far too many of the South's rural youth who are non-college bound find themselves embedded in low wage jobs after high school, only to remain immersed in these dead-end jobs for years (Beaulieu and Barfield, 1998). Creative strategies must be developed to help these individuals acquire the job skills that can facilitate their successful transition into the workforce after high school. Expanding the WIA's youth focus to include those individuals who are non-college bound could prove vitally important in positioning these young adults to secure jobs that offer greater opportunities for long-term advancement.

TANF and WIA funds should be made available to support rural community capacity building activities

In many rural communities of the South, former TANF recipients are having a difficult securing jobs. In some cases, the impediment is the limited education and/or work experiences that some may have. But in other instances, the barrier is lack of available jobs. Access to WIA training services offered through the local one-stop center won't be very helpful if there are no decent jobs in the area for which people are to be trained.

As such, redirecting TANF and WIA funds to support innovative economic development strategies in many rural communities makes sense, in my view. Given the number of Southern

states who have left millions of dollars of TANF funds left unspent, these resources can be dedicated to helping rural communities engage in comprehensive economic development planning.

While many rural communities in the South are doing well during our nation's unprecedented economic expansion, when the economic downturn arrives, it will be the region's rural areas that will feel the pinch given its heavy dependence on low-skilled employment. That is why rural communities must start now to diversify its economy and to take the high road with regard to its labor force and economic development activities. But, it cannot do it alone. Federal and state partnerships is critical.

William F. Winter, former Governor of Mississippi, probably makes the case most eloquently in a recent Southern Rural Development Center publication. He states (Winter, 2000):

... too many folks have given up on waiting for a rising tide to lift all boats, given up hoping that trickle-down economics will trickle down to all of the people. But, we have to remember that programs aimed at moving the poor into the economic mainstream require that there be a mainstream for them to enter. The expansion of that mainstream is what we are really talking about.

There has to be a concentration on the process of community development — the creation of the bootstraps by which rural people can pull themselves up. That means building the capacity for local development. It means finding new and creative ways to get businesses to look at opportunities in places where they have been reluctant to go.

As Governor Winter further notes, rural communities that have gained success on the economic front have done so because their commitment to moving beyond the construction of physical facilities. Their triumphs are rooted in the attention that they have given to the development of human relationships, in the building of a true sense of community. As a result, those exemplary rural communities are made up of people who have dedicated themselves to working together rather than pulling in opposite directions. It is this vision that must serve as the underpinning of any policy that is seeks to improve the well-being of rural America and the rural South. It is also the type of policy that will help the rural South move from the shadows of its past to the full sunshine that awaits it tomorrow.

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The Future of Agriculture on the Great Plains

Presented: Thursday, February 24, 2000

William Patrie

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The supporting economic superstructure of the Great Plains has been the production of commodities. Thomas Jefferson didn't want manufacturing plants that provided urban squalor, and demeaning jobs. Instead he wanted the robust healthy life of garden-like plantations. Manicured fields of cotton with great houses, stables, and improved roads. He had seen Europe and didn't want to ever duplicate the ghetto-like urban environment in the New World. He felt that with the Louisiana purchase, the unspoiled fertile land would produce enough furs and eventually enough commodities to satisfy economic stability and growth.

In the nearly 200 years since Jefferson's purchase, powerful forces have visited the Great Plains. Railroad expansion and land grant colleges, the Homestead Act, small pox epidemics, wars with Indian tribes, reservations, drought, economic depression, the cold war and defense systems, dams on major rivers and irrigation systems, soil bank, water bank, conservation reserve program, payment in kind, grain sale to the Soviet Union, oil embargo, floods, blizzards, 21 percent interest rates, inflation, barbed wire, diesel engines, four wheel drive tractors, summer fallow and no-till farming, shelter belts, wind mills, rural electrification, telephones, interstate highways, farm consolidation, IBP, ADM, ConAgra, Cargill, Monsanto, genetically modified seeds, organics, cooperatives, satellites and the Internet.

The Poppers from Rutgers have written about the Great Plains as a buffalo commons. Eric Severeid, the CBS correspondent from North Dakota said that our state is the blank spot on America's mind. The North Dakota song contains the words "See the cattle and the wheat and the folks that can't be beat." People from the Great Plains want you to think of the cattle and the wheat first. The farmers and ranchers of the Great Plains have sought respect in the mind of the world by their ability to raise wheat and cattle.

My brother Loren is a farmer in central North Dakota. He has a picture of a old man wearing a worn denim jacket standing in a field of hard red spring wheat. The man's hair is white and flowing to his shoulders; his beard, white and flowing to mid-chest, points to his weathered hands gently cradling three long heads of ripe grain. The grain, nurtured to perfection on this farmer's soil, is the measure of this man's greatness.

The people of the Great Plains have been defined by the commodities they produce and the place they are from. They measure the value of land by its ability to raise corn or cattle, wheat or hay. They have experience with coal, minerals and oil wells, tourism, manufacturing and medical care, and now software companies, universities, and urban growth, but the first thing about the Great Plains is "see the cattle and the wheat."

There is a necessary sadness here. For what has defined these people before and measured their personal greatness is now defined as without significant value. Commodities are common, unimportant. No one cares what the rancher went through to deliver that perfect bunch of red Angus feeder calves to the auction ring. The order buyer gets them for the lowest price possible and hopes that the rancher will have another load next year. He didn't get the fellow's name.

Likewise the wheat is planted. The farm family worries about weather, insurance, weeds and pest, and finally it looks like a harvest. Combines are started, trucks repaired, bins are swept clean. In the desperation of not enough time, bad weather and break downs, the crop is brought in. Beautiful 60 lb wheat. Sometime in March, with mud in front of the bins, semis haul away that grain. At the elevator, the farmer gets \$2.53/bushell net, having first to pay the freight on a hundred-car unit train which hauls the wheat to a miller who never knew nor saw the farmer. The miller may remember that on one day, he made really great flour, but he doesn't even know where the grain came from.

Now many commodities produced in the Great Plains are at great risk of being replaced by commodities produced in other parts of the world where land and labor is cheaper and the land is newer and requires less inputs. Others at this conference can report on the commodity price misery being experienced on the Great Plains. I won't, other than to say that it is a necessary time of sadness, for farm families do not want to let go of their position in food chain as commodity producers. It is like dying.

But something new is happening. Like crocuses through the snow of Easter, new businesses are forming. They are businesses formed by farmers who ask financially strapped neighbors to invest money and commit quality products. Soybeans are now being sold as oil, durum wheat as pasta, hard red spring wheat as partially baked frozen bread, corn as sweeteners, alfalfa to milk and cheese, hogs as hams, and cattle as dinning entertainment.

The Illinois Institute for Rural Affairs at Western Illinois University in Macomb, Illinois spent time compiling these "new generation cooperatives." The researchers are Mary Holmes, Christopher Merrett and Jennifer Waner. Here is what they found:

There are seven cooperatives in the United States that process beans and legumes, 19 that process corn, four that produce or process diversified organic products, six that process fiber, three that produce fish, four that do fruit processing, six that do grain processing and marketing, 14 that produce, process or market livestock, six poultry producers, three producers alliances, one purchasing and service, six soybean and oilseed processing, four sugar beet processing and marketing, five vegetable processing and marketing and one dairy processing cooperative. The total at this count was 89.

Of the 89 new generation cooperatives identified, 63 or 70 percent are located in just three states, North Dakota, Minnesota, and Iowa.

These cooperatives are found in 19 states: California three, Colorado one, Georgia one, Hawaii one, Illinois two, Indiana two, Iowa 10, Kansas one, Maine one, Maryland one, Michigan one, Minnesota 29, Missouri three, Nebraska one, North Dakota 24, Oregon two, South Dakota three, Washington one, Wisconsin two.

This first printing was done in August of 1999 and is a rough first count. It under counts all value-added enterprises because it does not include limited liability companies and other business forms that may mimic new generation cooperatives and provide much of the same benefit. It is also very hard to count businesses that are being born and those that are dying, those that are being designed and those that actually exist. It is equally difficult to categorize businesses as new generation cooperatives since there can be a number of definitions.

I consider a business a "new generation" cooperative if it has four characteristics:

1. Uniform marketing agreements as a condition for membership

- 2. Equity investment tied to intended patronage and uniform marketing agreements,
- 3. Transferable delivery rights and obligations related to shares of stock,
- 4. High levels of patronage credits are transferred each year to the members.

At first look, there is nothing remarkable here, and the number of "new generation cooperatives" are statistically insignificant. While North Dakota has 24 new generation cooperatives, it has more than 400 traditional cooperatives. And like the Great Plains in general, North Dakota is served by large regional cooperatives, the three largest being Farmland Industries, Cenex-Harvest States and Land O'Lakes. The statewide association that I work for has three large generation cooperatives, the largest which is Basin Electric Cooperative, headquartered in Bismarck. Basin serves eight states and has more than 100 distribution cooperatives as its members. It also wholly owns a coal gasification plant that sells synthetic natural gas and numerous other by-products refined from coal and is a major provider of Internet services in North Dakota.

Our office is located in the same building with North Central Data Cooperative which serves 27 states by processing telephone and electric bills and designing and installing software. Just east of our office on "The Old Red Trail" is the modern and beautiful office of Farm Credit Services. That office in Mandan provides hundreds of millions of dollars in loans to farmers in southcentral, central and southwestern North Dakota.

These large, effective, and impressive cooperatives overshadow these new, often struggling start ups. Yet the excitement (sometimes referred to as "co-op fever") continues in the Great Plains about this new business style. Why? Because when operating effectively, a new generation cooperative is a powerful money making business for its owner members.

Dakota Growers Pasta is an example. I helped start this cooperative in August 1990. Today it is the third largest pasta manufacturer in the United States. Look at its performance compared to the prices received for durum wheat. Durum is the major ingredient in Pasta.

Year	USA	Canada	Dakota Growers	DGPC versus USA	DGPC versus Can*
1994	4.67	4.92	5.95	+1.28	+1.02
1995	5.75	5.04	5.80	+0.05	+0.76
1996	4.53	4.28	6.52	+1.99	+2.24
1997	4.91	4.44	6.74	+1.83	+2.34
1998	3.00	2.94	6.64	+3.64	+3.70

I have compared the dollars received per bushel for Western Canadian Amber Durum, by Canadians, Number 1 Hard Amber durum by United States producers and prices received by Dakota Growers Pasta Company members. These are the average actual dollars paid to producers in North Dakota and Manitoba on a per bushel basis in US dollars adjusted for currency exchange rates and transportation differentials and the amount paid in cash and retained in DGPC.

While commodity production is the dominant model in the Great Plains, there is significant antidotal evidence to suggest that New Generation cooperatives are having a trim-tab effect on the direction agriculture is taking. By demonstrating much better financial performance, some new generation

^{*} The numbers are from Manitoba Agriculture, North Dakota Wheat Commission, USDA AG Statistics, and Dakota Growers Pasta Company's 1998 annual report.

cooperatives are pulling the main rudder in the direction of vertically integrated farms owning or allied with a much greater portion of the food system.

We do not have a accurate count on the number of development centers working to encourage value-added agriculture and farmer-owned vertical integration. I would guess that in the Great Plains alone (including Canadian Provinces) there are at least 20 such centers. About 10 centers have allied with two national partners (The National Cooperative Business Association and the Cooperative Development Foundation) to form a network of centers now known as "CooperationWorks!". USDA itself has encouraged this effort of farmers and ranchers to organize value added enterprises by providing cooperative development technical assistance through their own staff and by providing grants to centers such as mine.

While this scattered phenomena may appear insignificant, it could also be a trim tab on the great rudder of agricultural, turning our beloved industry to propserity. We will have to see.



